```
=> file .nash

=> s (lipase or phospholipase) and chemically modified
L1          37 FILE MEDLINE
L2          93 FILE CAPLUS
L3          49 FILE SCISEARCH
L4          15 FILE LIFESCI
L5          48 FILE BIOSIS
L6          42 FILE EMBASE

TOTAL FOR ALL FILES
L7         284 (LIPASE OR PHOSPHOLIPASE) AND CHEMICALLY MODIFIED

=> s l7 and hydrophobic


TOTAL FOR ALL FILES
L14         39 L7 AND HYDROPHOBIC

=> dup rem l14
PROCESSING COMPLETED FOR L14
L15          16 DUP REM L14 (23 DUPLICATES REMOVED)

=> d ibib abs 1-
YOU HAVE REQUESTED DATA FROM 16 ANSWERS - CONTINUE? Y/(N):y

L15  ANSWER 1 OF 16  LIFESCI    COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER:   2003:60888  LIFESCI
TITLE:              Chemical modification of lipases with various
                    hydrophobic groups improves their
                    enantioselectivity in hydrolytic reactions
AUTHOR:             Ueji, S.-I.; Ueda, A.; Tanaka, H.; Watanabe, K.; Okamoto,
                    T.; Ebara, Y.
CORPORATE SOURCE:   Division of Natural Environment and Bioorganic Chemistry,
                    Faculty of Human Development and Sciences, Kobe
University,
                    Nada, Kobe 657-8501, Japan; E-mail: ueji@kobe-u.ac.jp
SOURCE:             Biotechnology Letters [Biotechnol. Lett.], (20050101)
vol.
                    25, no. 1, pp. 83-87.
                    ISSN: 0141-5492.
DOCUMENT TYPE:      Journal
FILE SEGMENT:       W2
LANGUAGE:           English
SUMMARY LANGUAGE:   English
AB   Semi-purified lipases from Candida rugosa, Pseudomonas cepacia
     and Alcaligenes sp. were chemically modified with a
     wide range of hydrophobic groups such as benzyloxycarbonyl,
     p-nitrobenzyloxycarbonyl, p-methoxybenzyloxycarbonyl, t-butoxycarbonyl,
     lauroyl and acetyl moieties. The Candida rugosa lipase MY
     modified with the benzyloxycarbonyl group (modification ratio = 84%)
     brought about a 15-fold increase in enantioselectivity (E value) towards
     the hydrolysis of racemic butyl 2-(4-ethylphenoxy)propionate in an
aqueous
```

buffer solution, although the enzymatic activity was decreased. The origin of the enantioselectivity enhancement by chemical modification of the **lipase** is attributed to a significant deceleration in the initial reaction rate for the incorrectly binding enantiomer.

L15 ANSWER 2 OF 16 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2003349727 MEDLINE
DOCUMENT NUMBER: 22764092 PubMed ID: 12882312
TITLE: Chemical modification of **lipases** with various **hydrophobic** groups improves their enantioselectivity in hydrolytic reactions.
AUTHOR: Ueji Shin-ichi; Uedal Ai; Tanaka Hiroyuki; Watanabe Keiichi; Okamoto Takashi; Ebara Yasuhito
CORPORATE SOURCE: Division of Natural Environment and Bioorganic Chemistry, Faculty of Human Development and Sciences, Kobe University, Nada, Kobe 657-8501, Japan.. ueji@kobe-u.ac.jp
SOURCE: Biotechnol Lett, (2003 Jan) 25 (1) 83-7. Journal code: 8008051. ISSN: 0141-5492.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200309
ENTRY DATE: Entered STN: 20030729
Last Updated on STN: 20030917
Entered Medline: 20030916

AB Semi-purified **lipases** from Candida rugosa, Pseudomonas cepacia and Alcaligenes sp. were **chemically modified** with a wide range of **hydrophobic** groups such as benzyloxycarbonyl, p-nitrobenzyloxycarbonyl, p-methoxybenzyloxycarbonyl, t-butoxycarbonyl, lauroyl and acetyl moieties. The Candida rugosa **lipase** MY modified with the benzyloxycarbonyl group (modification ratio = 84%) brought about a 15-fold increase in enantioselectivity (E value) towards the hydrolysis of racemic butyl 2-(4-ethylphenoxy)propionate in an aqueous buffer solution, although the enzymatic activity was decreased. The origin of the enantioselectivity enhancement by chemical modification of the **lipase** is attributed to a significant deceleration in the initial reaction rate for the incorrectly binding enantiomer.

L15 ANSWER 3 OF 16 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 2002:807164 SCISEARCH
THE GENUINE ARTICLE: 599TX
TITLE: Modified enzymes for reactions in organic solvents
AUTHOR: Salleh A B (Reprint); Basri M; Taib M; Jasmani H; Rahman R N Z A; Rahman M B A; Razak C N A
CORPORATE SOURCE: Univ Pertanian Malaysia, Fak Sains & Pengajian Alam Sekitar, Ctr Res Enzyme & Microbial Technol, Serdang 43400, Malaysia (Reprint)
COUNTRY OF AUTHOR: Malaysia
SOURCE: APPLIED BIOCHEMISTRY AND BIOTECHNOLOGY, (JUL-DEC 2002) Vol. 102, pp. 349-357. Publisher: HUMANA PRESS INC, 999 RIVERVIEW DRIVE SUITE 208, TOTOWA, NJ 07512 USA.

ISSN: 0273-2289.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 33
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Recent studies on biocatalysis in water-organic solvent biphasic systems have shown that many enzymes retain their catalytic activities in the presence of high concentrations of organic solvents. However, not all enzymes are organic solvent tolerant, and most have limited and selective tolerance to particular organic solvents. Protein modification or protein tailoring is an approach to alter the characteristics of enzymes, including solubility in organic solvents. Particular amino acids may play pivotal roles in the catalytic ability of the protein. Attaching soluble modifiers to the protein molecule may alter its conformation and the overall polarity of the molecule. Enzymes, in particular **lipases**, have been **chemically modified** by attachment of aldehydes, polyethylene glycols, and imidoesters. These modifications alter the hydrophobicity and conformation of the enzymes, resulting in changes in the microenvironment of the enzymes. By these modifications, newly acquired properties such as enhancement of activity and stability and changes in specificity and solubility in organic solvents are obtained. Modified **lipases** were found to be more active and stable in organic solvents. The optimum water activity (a(w)) for reaction was also shifted by using modified enzymes. Changes in enantioselective behavior were also observed.

L15 ANSWER 4 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:881286 CAPLUS
DOCUMENT NUMBER: 134:38868
TITLE: **Chemically modified** lipolytic enzyme for improved baking or detergent performance
INVENTOR(S): Callisen, Thomas Honger; Patkar, Shamkant Anant; Svendsen, Allan; Vind, Jesper
PATENT ASSIGNEE(S): Novo Nordisk A/S, Den.
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000075295	A1	20001214	WO 2000-DK300	20000602

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1185630 A1 20020313 EP 2000-934939 20000602

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

JP 2003529322 T2 20031007 JP 2001-502561 20000602

PRIORITY APPLN. INFO.: DK 1999-778 A 19990602
US 1999-138081P P 19990608
WO 2000-DK300 W 20000602

AB Lipolytic enzymes are **chem. modified** by covalently linking one or more (particularly 1-3) **hydrophobic** groups to the enzyme mol. or by site-specific mutagenesis of amino acids to more **hydrophobic** residues. Thus, modified **lipases** were prepd. by covalently linking tetradecanoyl and hexadecanoyl groups to Lipolase (Humicola lanuginosa **lipase**); an av. of 3 fatty acyl groups were linked to each mol. Monopods, dipods, and tripods are prepd. from Lipolase by removing the N-terminal amino group by pyroglutamate cyclization and making variants by amino acid substitutions at certain positions and other lysine residues substituted with arginine. The chem. modification improves the performance of the lipolytic enzyme, e.g., in baking or in detergents.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:714651 CAPLUS

DOCUMENT NUMBER: 135:225940

TITLE: Enzymic production of enantiomerically pure ethyl (R)-2-hydroxy-4-phenylbutanoate using immobilized **lipase** as biocatalyst

INVENTOR(S): Guisan Seijas, Jose Manuel; Armisen Gil, Pilar; Sabuquillo Castrillo, Pilar; Fernandez Lorente, Gloria; Fernandez Lafuente, Roberto; Bastida Codina, Agatha; Huguet Clotet, Joan; Bosch, Rovira, Anna; de Ramon Amat, Elisabet

PATENT ASSIGNEE(S): Vita-Invest, S.A., Spain

SOURCE: Span., 9 pp.
CODEN: SPXXAD

DOCUMENT TYPE: Patent

LANGUAGE: Spanish

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ES 2145702	A1	20000701	ES 1998-708	19980403
ES 2145702	B1	20010201		

PRIORITY APPLN. INFO.: ES 1998-708 19980403

OTHER SOURCE(S): CASREACT 135:225940

AB The title compd. is produced by resoln. of racemic Et 2-hydroxy-4-phenylbutanoate, obtaining (S)-2-hydroxy-4-phenylbutanoic acid as a byproduct. The process is carried out in aq. media under mild temp. and pH conditions utilizing **lipase** immobilized by adsorption to

chem. modified hydrophilic supports with a dense layer of well-defined **hydrophobic** groups.

L15 ANSWER 6 OF 16 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2000088590 MEDLINE
DOCUMENT NUMBER: 20088590 PubMed ID: 10620318
TITLE: Structural and functional characterization of myotoxin I, a Lys49 **phospholipase** A(2) homologue from Bothrops moojeni (Caissaca) snake venom.
AUTHOR: Soares A M; Andriao-Escarso S H; Angulo Y; Lomonte B; Gutierrez J M; Marangoni S; Toyama M H; Arni R K; Giglio J R
CORPORATE SOURCE: Faculdade de Medicina, Universidade de Sao Paulo, Ribeirao Preto-SP, 14049-900, Brazil.
SOURCE: ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, (2000 Jan 1) 373 (1) 7-15.
Journal code: 0372430. ISSN: 0003-9861.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200002
ENTRY DATE: Entered STN: 20000218
Last Updated on STN: 20000218
Entered Medline: 20000209

AB Myotoxin-I (MjTX-I) was purified to homogeneity from the venom of Bothrops moojeni by ion-exchange chromatography on CM-Sepharose. Its molecular weight, estimated by SDS-PAGE, was 13,400 (reduced) or 26, 000 (unreduced). The extinction coefficient (E(1.0 mg/ml)(1.0 cm)) of MjTX-I was 1.145 at lambda = 278 nm, pH 7.0, and its isoelectric point was 8.2 at ionic strength mu = 0.1. When lyophilized and stored at 4 degrees C, dimeric, trimeric, and pentameric forms of the protein were identified by SDS-PAGE. This "heterogeneous" sample could be separated into three fractions by gel filtration on Sephadex G-50. The fractions were analyzed by isoelectric focusing, immunoelectrophoresis, and amino acid composition, which indicated that heterogeneity was the result of different levels of self-association. Protein sequencing indicated that MjTX-I is a Lys49 myotoxin and consists of 121 amino acids (M(r) = 13,669), containing a high proportion of basic and **hydrophobic** residues. It shares a high degree of sequence identity with other Lys49 PLA(2)-like myotoxins, but shows a significantly lower identity with catalytically active Asp49 PLA(2)s. The three-dimensional structure of MjTX-I was modeled based on the crystal structures of three highly homologous Lys49 PLA(2)-like myotoxins. This model showed that the amino acid substitutions are conservative, and mainly limited to three structural regions: the N-terminal helix, the beta-wing region, and the C-terminal extended random coil. MjTX-I displays local myotoxic and edema-inducing activities in mice, and is lethal by intraperitoneal

injection, with an LD(50) value of 8.5 +/- 0.8 mg/kg. In addition, it is cytotoxic to myoblasts/myotubes in culture, and disrupts negatively charged liposomes. In comparison with the freshly prepared dimeric sample, the more aggregated forms showed significantly reduced myotoxic activity. However, the edema-inducing activity of MjTX-I was independent of molecular association. **Phospholipase** A(2) activity on egg yolk, as well as anticoagulant activity, were undetectable both in the native and in the more associated forms. His, Tyr, and Trp residues of the toxin were **chemically modified** by specific reagents. Although the myotoxic and lethal activities of the modified toxins were reduced by these treatments, neither its edema-inducing or liposome-disrupting activities were significantly altered. Rabbit antibodies to native MjTX-I cross-reacted with the **chemically modified** forms, and both the native and modified MjTX-I preparations were recognized by antibodies against the C-terminal region 115-129 of myotoxin II from B. asper, a highly Lys49 PLA(2)-homologue with high sequencial similarity.

L15 ANSWER 7 OF 16 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2000084086 MEDLINE
DOCUMENT NUMBER: 20084086 PubMed ID: 10616713
TITLE: Activity and stability of **chemically modified** Candida antarctica **lipase** B adsorbed on solid supports.
AUTHOR: Koops B C; Papadimou E; Verheij H M; Slotboom A J; Egmond M R
CORPORATE SOURCE: Department of Enzymology and Protein Engineering, Utrecht University, The Netherlands.
SOURCE: APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (1999 Nov) 52 (6) 791-6.
Journal code: 8406612. ISSN: 0175-7598.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200002
ENTRY DATE: Entered STN: 20000229
Last Updated on STN: 20000229
Entered Medline: 20000214

AB The effect of various covalent chemical modifications on the transesterification activity and stability of adsorbed **lipase** B from Candida antarctica (CALB) was studied in 2-butanone and o-xylene. CALB species modified with either polyethylene glycol 2000 monomethyl ether (MPEG), polyethylene glycol 300 mono-octyl ether (OPEG) or n-octanol (OCT) were used in combination with a **hydrophobic** (Accurel) and a hydrophilic (Duolite) support. The thermostabilities of adsorbed CALB in both solvents, and that of free CALB in o-xylene were not influenced by the modifications. In contrast, the thermostability of free CALB in 2-butanone decreased 2.5-fold after MPEG modification and increased 1.5-fold after modification with OPEG and n-octanol, compared to that of

native CALB. The activities of the native and modified CALB species were up to 9-fold higher after adsorption onto Accurel than those of the corresponding free enzymes. Adsorption of these enzyme species onto Duolite only resulted in a 2- to 3-fold increase in the activity of OPEG- and OCT-modified CALB. The modified CALB species adsorbed onto Accurel show similar or up to 2-fold lower activities than do native adsorbed CALB species, while 1.5- to 6-fold higher activities were found for modified CALB species adsorbed onto Duolite. We propose that **hydrophobic** modifiers induce conformational changes of CALB during adsorption on a **hydrophobic** support whereas all three modifiers protect CALB from structural alterations during adsorption onto a hydrophilic support.

L15 ANSWER 8 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
ACCESSION NUMBER: 1999:623668 CAPLUS
DOCUMENT NUMBER: 132:1670
TITLE: Effect of chemical modification on the activity of **lipases** in organic solvents
AUTHOR(S): Koops, B. C.; Verheij, H. M.; Slotboom, A. J.; Egmond, M. R.
CORPORATE SOURCE: Institute of Biomembranes, Centre for Biomembranes and Lipid Enzymology, Department of Enzymology and Protein Engineering, Utrecht University, Utrecht, 3500 TB, Neth.
SOURCE: Enzyme and Microbial Technology (1999), 25(7), 622-631
CODEN: EMTED2; ISSN: 0141-0229
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Lipases** from Rhizomucor Miehei, Candida antarctica, and Fusarium solani pisi were **chem. modified** with the aim to improve their catalytic properties in org. solvents. The chem. modifiers, two activated polyethylene glycol derivs. and activated n-octanol, were covalently linked to lysine residues at the surface of the enzyme leading to varying surface hydrophobicities. The modified **lipases** were tested for hydrolytic activity in water and for transesterification activity in the org. solvents o-xylene, tert-Bu Me ether, tert-butanol, and 2-butanone. Whereas the hydrolytic activity was only slightly affected by the modifications, the transesterification activities were influenced strongly even though the modified **lipases** were still not sol. in org. solvents. The most effective modifier is tryesyl-activated polyethylene glycol 2000 monomethyl ether, activating **lipases** up to 27-fold in org. solvents while it is the least **hydrophobic**. The more **hydrophobic** modifiers, tresyl-activated polyethylene glycol 400 mono-octyl Et (tOPEG) and tresyl-activated octanol (tOCT), may lead to inactivation. Co-lyophilization of unmodified Candida antarctica **lipase** B (CALB) with additives such as polyethylene glycol di-Me ether and crown ether also pos. affects the activity of CALB in org. solvents. However,

we found that covalent linking of MPEG to CALB is more effective because the activation by additives is partially lost during washing of the enzyme for reuse. The thermostability of CALB in o-xylene is not affected by modification, whereas in 2-butanone the thermostability is decreased by MPEG modification and increased by OPEG or OCT modification. Our results suggest that MPEG pos. influences the porosity of the **lipase** aggregates in org. media, whereas OPEG and OCT induce tighter aggregates.
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
ACCESSION NUMBER: 1998:727976 CAPLUS
DOCUMENT NUMBER: 130:65539
TITLE: Modification of butterfat by selective hydrolysis and interesterification by **lipase**: process and product characterization
AUTHOR(S): Balcao, Victor M.; Kemppinen, Asmo; Malcata, F. Xavier; Kalo, Paavo J.
CORPORATE SOURCE: Escola Superior de Biotecnologia, Universidade Catolica Portuguesa, Oporto, 4200, Port.
SOURCE: Journal of the American Oil Chemists' Society (1998), 75(10), 1347-1358
CODEN: JAOCA7; ISSN: 0003-021X
PUBLISHER: AOCS Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Butterfat was **chem. modified** via combined hydrolysis and interesterification, catalyzed by a com. **lipase** immobilized onto a bundle of **hydrophobic** hollow fibers. The main goal of this research effort was to engineer butterfat with improved nutritional properties by taking advantage of the sn-1,3 specificity and fatty acid specificity of a **lipase** in hydrolysis and ester interchange reactions, and concomitantly decrease its level of long-chain satd. fatty acid residues (viz., lauric, myristic, and palmitic acids) and change its melting properties. All reactions were carried out at 40.degree.C in a solvent-free system under controlled water activity, and their extent was monitored via chromatog. assays for free fatty acids, esterified fatty acid moieties, and triacylglycerols; the thermal behavior of the modified butterfat was also assessed via calorimetry. **Lipase**-modified butterfat possesses a wider melting temp. range than regular butterfat. The total satd. triacylglycerols decreased by 2.2%, whereas triacylglycerols with 28-46 acyl carbons (which contained two or three lauric, myristic, or palmitic acid moieties) decreased by 13%. The total monoene triacylglycerols increased by 5.4%, whereas polyene triacylglycerols decreased by 2.9%. The triacylglycerols of

interesterified butterfat had ca. 10.9% less lauric, 10.7% less myristic,
and 13.6% less palmitic acid residues than those of the original butterfat.
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
ACCESSION NUMBER: 1994:502508 CAPLUS
DOCUMENT NUMBER: 121:102508
TITLE: **Lipase** made active in **hydrophobic** media by coupling with polyethylene glycol
AUTHOR(S): Kodera, Y.; Nishimura, H.; Matsushima, A.; Hiroto, M.; Inada, Y.
CORPORATE SOURCE: Hum. Sci. Technol. Cent., Toin Univ., Yokohama, 225, Japan
SOURCE: Journal of the American Oil Chemists' Society (1994), 71(3), 335-8
CODEN: JAOCA7; ISSN: 0003-021X
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review, with 14 refs. **Lipases** from various microorganisms were **chem. modified** with polyethylene glycol derivs.: 2,4-bis[O-methoxypoly(ethylene glycol)]-6-chloro-s-triazine (activated PEG, a chain-shaped polymer) and copolymer of polyoxyethylene allyl Me diether and maleic anhydride (activated PM, a comb-shaped polymer). Because each polymer is amphipathic, the modified **lipases** become sol. not only in aq. soln. but also in **hydrophobic** media. They exhibit potent catalytic actions for ester synthesis and ester exchange reactions, the reverse reaction of hydrolysis, in transparent org. solvents and also in oily substrates without org. solvents. With PEG2-**lipases**, macrocyclic lactone and gefarnate (geranyl farnesylacetate) were synthesized in high yields from 16-hydroxy-hexadecanoic acid Et ester and from farnesylacetic acid and geraniol in org. solvents, resp. The modified **lipase** catalyzed the esterification preferentially with the (R)-isomer of secondary alcs. Because the ester synthesis reactions with modified **lipase** proceeded in the transparent benzene system, the kinetic parameters (Michaelis const. and max. velocity) were obtained by reciprocal plotting according to the Michaelis equation. With comb-shaped polymer as modifier, PM-**lipase** catalyzed effectively the reverse reaction of hydrolysis in org. solvents. The properties of each modified **lipase** are discussed in relation to those of the nonmodified **lipase**.

L15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:58237 CAPLUS
DOCUMENT NUMBER: 118:58237
TITLE: Enzymic hydrolysis of carboxylic acid esters in organic solvents
INVENTOR(S): Buchner, Maria Dipl-ing; Estermann, Robert; Mayrhofer,

Herbert; Banko, Gerald Dr
PATENT ASSIGNEE(S): Chemie Linz Gesellschaft m.b.H., Austria
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 511526	A1	19921104	EP 1992-106039	19920408
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
AT 9100886	A	19940115	AT 1991-886	19910429
CA 2065550	AA	19921030	CA 1992-2065550	19920407
US 5278064	A	19940111	US 1992-870429	19920417
AU 9215024	A1	19921105	AU 1992-15024	19920421
AU 662134	B2	19950824		
ZA 9203072	A	19921230	ZA 1992-3072	19920428
JP 05130881	A2	19930528	JP 1992-110468	19920428
HU 62940	A2	19930628	HU 1992-1412	19920428

PRIORITY APPLN. INFO.: AT 1991-886 19910429

AB Esters are hydrolyzed enzymically in an org. solvent that is only sparingly miscible with water using a hydrolase. The org. solvent is kept water-satd. throughout the reaction. The hydrolase does not have to be **chem. modified** or immobilized. Racemic R and S-2-bromopropionic acid-2-ethylhexyl ester in di-iso-Pr ether and water was stirred to sat. the ether soln. with water. The ethereal substrate soln. was pumped over a column contg. Candida cylindracea **lipase** mixed with Celite. The column eluate was recombined with the water soln. to resaturate the ether soln. (which was passed through the column again) and to recover the 2-bromopropionic acid (I) produced. NaOH was added to the water soln. to form the Na salt of I and to ext. this salt into the water phase. I was recovered from the water phase after acidification and extn. From the initial mixt. of enantiomers with 44% ee R enantiomer, a mixt. with 90.4% ee R enantiomer was obtained.

L15 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 7
ACCESSION NUMBER: 1992:545961 CAPLUS
DOCUMENT NUMBER: 117:145961
TITLE: Amidination of **lipase** with **hydrophobic** imidoesters
AUTHOR(S): Basri, M.; Ampon, K.; Yunus, W. M. Z.; Razak, C. N. A.; Salleh, A. B.
CORPORATE SOURCE: Fak. Sains Pengajian Alam Sekitar, Univ. Pertanian Malaysia, Serdang, 43400 UPM, Malay.
SOURCE: Journal of the American Oil Chemists' Society (1992), 69(6), 579-83
CODEN: JAOCA7; ISSN: 0003-021X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Lipase** from Candida rugosa was **chem. modified** by amidination with imidoester hydrochlorides of different hydrophobicity.

The modified enzyme showed a higher ester synthesis activity but a lower ester hydrolysis activity compared with the native enzyme. The max. specific activity of the modified enzyme depended on its degree of derivatization. Benzene was the best solvent for the synthesis reaction.

The optimal temp. for the reaction was not affected by modification of the **lipase**. The modified **lipase** was more thermostable and solvent-stable than the native enzyme. When fatty acids of different carbon chain length were tested as substrates in the synthesis of esters with the modified **lipase**, the highest activity was obsd. with myristic acid and propanol.

L15 ANSWER 13 OF 16 MEDLINE on STN DUPLICATE 8

ACCESSION NUMBER: 91202506 MEDLINE
DOCUMENT NUMBER: 91202506 PubMed ID: 2016724
TITLE: New derivatives of kanamycin B obtained by modifications and substitutions in position 6". 1. Synthesis and microbiological evaluation.
AUTHOR: Van Schepdael A; Delcourt J; Mulier M; Busson R; Verbist L; Vanderhaeghe H J; Mingeot-Leclercq M P; Tulkens P M; Claes P J
CORPORATE SOURCE: Laboratorium voor Farmaceutische Chemie, Rega Instituut, Katholieke Universiteit Leuven, Belgium.
SOURCE: JOURNAL OF MEDICINAL CHEMISTRY, (1991 Apr) 34 (4) 1468-75.
Journal code: 9716531. ISSN: 0022-2623.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199105
ENTRY DATE: Entered STN: 19910607
Last Updated on STN: 19910607
Entered Medline: 19910521

AB The clinical use of the potent, wide-spectrum aminoglycoside antibiotics is limited by oto- and nephrotoxicities. The latter is related to the binding of these polycationic drugs to negatively charged phospholipids and to the subsequent inhibition of lysosomal **phospholipases**.

In order to explore the influence of a modification of the **hydrophobic**/hydrophilic balance at a specific site of an aminoglycoside, kanamycin B has been **chemically modified** in position 6" by substitution of the hydroxyl group with a halogen atom (or a pseudohalogen group), or an amino, an amido, a thioalkyl, or an alkoxy group, each series containing increasingly bulkier chains.

Examination of the antibacterial activity of the synthesized compounds revealed a negative correlation between the size of the 6"-substituent and the antibacterial activity against kanamycin B sensitive Gram-positive and -negative organisms. Only derivatives with small substituents in position

6", namely chloro, bromo, azido, amino, methylcarbamido, acetamido, methylthio, methylsulfinyl, O-methyl, O-ethyl, and O-isopropyl, showed acceptable activity (geometric mean of minimum inhibitory concentrations for Gram-negative strains less than or equal to 2.5 mg/L; value for kanamycin B, 0.5 mg/L). In vitro toxicological evaluation of all derivatives and computer-aided conformational analysis of selected compounds inserted in a phosphatidylinositol monolayer are presented in the following paper in this issue.

L15 ANSWER 14 OF 16 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 91:235427 SCISEARCH
THE GENUINE ARTICLE: FG776
TITLE: NEW DERIVATIVES OF KANAMYCIN-B OBTAINED BY MODIFICATIONS AND SUBSTITUTIONS IN POSITION 6'' .1. SYNTHESIS AND MICROBIOLOGICAL EVALUATION
AUTHOR: VANSCHEPDAEL A; DELCOURT J; MULIER M; BUSSON R; VERBIST L;
VANDERHAEGHE H J; MINGEOTLECLERCQ M P; TULKENS P M; CLAES
P J (Reprint)
CORPORATE SOURCE: CATHOLIC UNIV LEUVEN, REGA INST, FARMACEUT CHEM LAB, MINDERBROEDERSTR 10, B-3000 LOUVAIN, BELGIUM; CATHOLIC UNIV LEUVEN, ZIEKENHUIS ST RAFAEL, MED MIKROBIOL LAB, B-3000 LOUVAIN, BELGIUM; CATHOLIC UNIV LOUVAIN, CHIM PHYSIOL LAB, B-1200 BRUSSELS, BELGIUM; INT INST CELLULAR &
MOLEC PATHOL, B-1200 BRUSSELS, BELGIUM
COUNTRY OF AUTHOR: BELGIUM
SOURCE: JOURNAL OF MEDICINAL CHEMISTRY, (1991) Vol. 34, No. 4, pp.
1468-1475.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 42

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The clinical use of the potent, wide-spectrum aminoglycoside antibiotics is limited by oto- and nephrotoxicities. The latter is related to the binding of these polycationic drugs to negatively charged phospholipids and to the subsequent inhibition of lysosomal **phospholipases**. In order to explore the influence of a modification of the **hydrophobic**/hydrophilic balance at a specific site of an aminoglycoside, kanamycin B has been **chemically modified** in position 6" by substitution of the hydroxyl group with a halogen atom (or a pseudohalogen group), or an amino, an amido, a thioalkyl, or an alkoxy group, each series containing increasingly bulkier chains. Examination of the antibacterial activity of the synthesized compounds revealed a negative correlation between the size of the 6"-substituent and the antibacterial activity against kanamycin B sensitive Gram-positive and -negative organisms. Only derivatives with small substituents in position 6", namely chloro, bromo, azido, amino, methylcarbamido, acetamido, methylthio, methylsulfinyl, O-methyl, O-ethyl, and O-isopropyl, showed acceptable activity (geometric mean of minimum inhibitory concentrations for Gram-negative strains less-than-or-equal-

to
2.5 mg/L; value for kanamycin B, 0.5 mg/L). In vitro toxicological evaluation of all derivatives and computer-aided conformational analysis of selected compounds inserted in a phosphatidylinositol monolayer are presented in the following paper in this issue.

L15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:450748 CAPLUS
DOCUMENT NUMBER: 109:50748
TITLE: **Lipase** made active in **hydrophobic** media
AUTHOR(S): Takahashi, Katsunobu; Saito, Yuji; Inada, Yuji
CORPORATE SOURCE: Lab. Biol. Chem., Tokyo Inst. Technol., Tokyo, 152, Japan
SOURCE: JAOCS, J. Am. Oil Chem. Soc. (1988), 65(6), 911-16
CODEN: JJASDH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The activation of **lipase** in **hydrophobic** solvents by chem. modification with polyethylene glycol (PEG) and the activity of PEG-modified **lipase** reacted with magnetite in org. solvents are discussed with refs. to ester synthesis.

L15 ANSWER 16 OF 16 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:613396 CAPLUS
DOCUMENT NUMBER: 103:213396
TITLE: Modified **lipase**
INVENTOR(S): Inada, Yuji
PATENT ASSIGNEE(S): Bellex Corp., Japan
SOURCE: Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 149520	A2	19850724	EP 1985-300102	19850107
EP 149520	A3	19871125		
EP 149520	B1	19910904		
R: CH, DE, FR, GB, IT, LI, NL				
JP 60156395	A2	19850816	JP 1984-6129	19840117
JP 05036029	B4	19930528		
US 4645741	A	19870224	US 1984-687635	19841231

PRIORITY APPLN. INFO.: JP 1984-6129 19840117
AB A **chem. modified lipase** is prepd. which is modified with a straight chain comprising a substituted polyalkylene glycol having a **hydrophobic** group at a terminal end. The modified enzyme is sol. in both water and org. solvent, allowing for contact with org. solvents without enzyme deactivation. Thus, lipoprotein
lipase [9004-02-8] from Pseudomonas fluorescens was reacted with 2,4-bis(methoxypolyoxyethylene)-6-chloro-s-triazine [72708-10-2] at 37.degree. for 1 h. The enzyme was purified by conventional means to obtain a **lipase** prepn. contg. 52% of its NH2 groups modified with the triazine deriv. The modified **lipase** was added to a

benzene [71-43-2] soln. contg. stearic acid [57-11-4] and lauryl alc. [112-53-8] and the reaction was carried out at 37% for 20 min. Modified **lipase** exhibited max. lauryl stearate [5303-25-3] synthesis activity of 4.5 .mu.mol/min/mg protein.

```
=> s (lipase or phospholipase) and chemically modified and lanuginosa
L16          0 FILE MEDLINE
L17          1 FILE CAPLUS
L18          0 FILE SCISEARCH
L19          0 FILE LIFESCI
L20          0 FILE BIOSIS
L21          0 FILE EMBASE

TOTAL FOR ALL FILES
L22          1 (LIPASE OR PHOSPHOLIPASE) AND CHEMICALLY MODIFIED AND
LANUGINOSA

=> d ibib abs

L22  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2000:881286  CAPLUS
DOCUMENT NUMBER:          134:38868
TITLE:                    Chemically modified lipolytic
                          enzyme for improved baking or detergent performance
INVENTOR(S):              Callisen, Thomas Honger; Patkar, Shamkant Anant;
                          Svendsen, Allan; Vind, Jesper
PATENT ASSIGNEE(S):       Novo Nordisk A/S, Den.
SOURCE:                   PCT Int. Appl., 19 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
     ----------------  ----  --------       ----------------  --------
     WO 2000075295      A1   20001214       WO 2000-DK300     20000602
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,
             CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
             ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
             LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,
             SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU,
             ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     EP 1185630         A1   20020313       EP 2000-934939    20000602
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
     JP 2003529322      T2   20031007       JP 2001-502561    20000602
PRIORITY APPLN. INFO.:                   DK 1999-778       A  19990602
                                         US 1999-138081P   P  19990608
                                         WO 2000-DK300     W  20000602
AB   Lipolytic enzymes are chem. modified by covalently
     linking one or more (particularly 1-3) hydrophobic groups to the enzyme
     mol. or by site-specific mutagenesis of amino acids to more hydrophobic
```

residues. Thus, modified **lipases** were prepd. by covalently linking tetradecanoyl and hexadecanoyl groups to Lipolase (Humicola **lanuginosa lipase**); an av. of 3 fatty acyl groups were linked to each mol. Monopods, dipods, and tripods are prepd. from Lipolase by removing the N-terminal amino group by pyroglutamate cyclization and making variants by amino acid substitutions at certain positions and other lysine residues substituted with arginine. The chem. modification improves the performance of the lipolytic enzyme, e.g., in baking or in detergents.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> log y

WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Friday, February 06, 2004

Hide?	Set Name	Query	Hit Count
		DB=PGPB; THES=ASSIGNEE; PLUR=YES; OP=ADJ	
☐	L4	(lipase or phospholipase) same chemically modified and hydrophobic	19
		DB=USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ	
☐	L3	L2 and lanuginosa	20
☐	L2	(lipase or phospholipase) same chemically modified and hydrophobic	30
☐	L1	(lipase or phospholipase) same chemically modified and hdrophobic	0

END OF SEARCH HISTORY

Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 20 of 30 returned.

☐ 1. Document ID: US 6623948 B1

Using default format because multiple data bases are involved.

L2: Entry 1 of 30 File: USPT Sep 23, 2003

US-PAT-NO: 6623948
DOCUMENT-IDENTIFIER: US 6623948 B1

TITLE: Nucleic acid sequences encoding alkaline alpha-amylases

DATE-ISSUED: September 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Outtrup; Helle	Vaerlose			DK
Hoeck; Lisbeth Hedegaard	Frorup			DK
Nielsen; Bjarne Ronfeldt	Virum			DK
Borchert; Torben Vedel	Copenhagen			DK
Nielsen; Vibeke Skovgaard	Bagsvaerd			DK
Bisg.ang.rd-Frantzen; Henrik	Bagsvaerd			DK
Svendsen; Allan	Birkerod			DK
Andersen; Carsten	Vaerlose			DK

US-CL-CURRENT: 435/202; 435/252.3, 435/254.11, 435/320.1, 435/325, 435/419, 536/23.1, 536/23.2, 536/23.7

Full | Title | Citation | Front | Review | Classification | Date | Reference | [illegible] | Claims | KWIC | Draw. De

☐ 2. Document ID: US 6617143 B1

L2: Entry 2 of 30 File: USPT Sep 9, 2003

US-PAT-NO: 6617143
DOCUMENT-IDENTIFIER: US 6617143 B1

TITLE: Polypeptides having glucanotransferase activity and nucleic acids encoding same

DATE-ISSUED: September 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fukuyama; Shiro	Chiba			JP

US-CL-CURRENT: 435/193; 435/183, 435/252.3, 435/262, 435/263, 435/320.1, 435/69.2, 510/114, 536/23.2, 536/23.7

ABSTRACT:

The present invention relates to isolated polypeptides having glucanotransferase activity and isolated nucleic acid sequences encoding the polypeptides. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences as well as methods for producing and using the polypeptides.

21 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

---

☐ 3. Document ID: US 6608018 B1

L2: Entry 3 of 30 File: USPT Aug 19, 2003

US-PAT-NO: 6608018
DOCUMENT-IDENTIFIER: US 6608018 B1

TITLE: Polypeptides having branching enzyme activity and nucleic acids encoding same

DATE-ISSUED: August 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shinohara; Mari L.	Brookline	MA		

US-CL-CURRENT: 510/392; 435/193

ABSTRACT:

The present invention relates to isolated polypeptides having branching enzyme activity and isolated nucleic acid sequences encoding the polypeptides. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences as well as methods for producing and using the polypeptides.

18 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 4. Document ID: US 6596900 B2

L2: Entry 4 of 30 File: USPT Jul 22, 2003

US-PAT-NO: 6596900
DOCUMENT-IDENTIFIER: US 6596900 B2

TITLE: Fused bicyclic or tricyclic amino acids

DATE-ISSUED: July 22, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blakemore; David Clive	Sandwich			GB
Bryans; Justin Stephen	Sandwich			GB
Williams; Sophie Caroline	Sandwich			GB

US-CL-CURRENT: 562/501

ABSTRACT:

The compounds of the instant invention are bicyclic or tricyclic amino acids useful in the treatment of epilepsy, faintness attacks, hypokinesia, cranial disorders, neurodegenerative disorders, depression, anxiety, panic, pain, arthritis, neuropathological disorders, sleep disorders, visceral pain disorders, and gastrointestinal disorders. Processes for the preparation of the final products and intermediates useful in the process are included. Pharmaceutical compositions containing one or more of the compounds are also included.

9 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

☐ 5. Document ID: US 6583096 B1

L2: Entry 5 of 30 File: USPT Jun 24, 2003

US-PAT-NO: 6583096
DOCUMENT-IDENTIFIER: US 6583096 B1
**** See image for Certificate of Correction ****

TITLE: Laundry detergents comprising modified alkylbenzene sulfonates

DATE-ISSUED: June 24, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kott; Kevin Lee	Cincinnati	OH		
Scheibel; Jeffrey John	Loveland	OH		
Severson; Roland George	Cincinnati	OH		

Cripe; Thomas Anthony	Loveland	OH
Burckett-St. Laurent; James Charles Theophile Roger	Cincinnati	OH

US-CL-CURRENT: 510/357; 510/424, 510/426, 510/428, 510/492

ABSTRACT:

Modified alkylbenzene sulfonate surfactant mixtures comprise a mixture of specific branched and non-branched alkylbenzene sulfonate compounds, and are further characterised by a 2/3-phenyl index of 160-275. Detergent and cleaning products containing these mixtures are also claimed.

20 Claims, 0 Drawing figures
Exemplary Claim Number: 1

☐ 6. Document ID: US 6558939 B1

L2: Entry 6 of 30 File: USPT May 6, 2003

US-PAT-NO: 6558939
DOCUMENT-IDENTIFIER: US 6558939 B1

TITLE: Proteases and variants thereof

DATE-ISSUED: May 6, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
N.o slashed.rregaard-Madsen; Mads	Odense			DK
.O slashed.stergaard; Peter Rahbek	Virum			DK
Christensen; Claus Bo V.o slashed.ge	Snekkersten			DK
Lassen; S.o slashed.ren Flensted	K.o slashed.benhavn			DK

US-CL-CURRENT: 435/222; 435/252.3, 435/320.1, 435/471, 435/69.1, 510/350, 536/23.2

ABSTRACT:

Novel isolated proteases of the RP-II type and variants of RP-II proteases exhibiting improved properties in comparison to the parent RP-II protease, DNA constructs and vectors coding for the expression of said proteases and variants, host cells capable of expressing the proteases and variants from the DNA constructs, as well as a method of producing them by cultivating said host cells. The proteases may advantageously be used as constituents in detergent compositions and additives, optionally in combination with other enzymes such as proteases, lipases, cellulases, amylase, peroxidases or oxidases.

27 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

☐ 7. Document ID: US 6551607 B1

L2: Entry 7 of 30 File: USPT Apr 22, 2003

US-PAT-NO: 6551607
DOCUMENT-IDENTIFIER: US 6551607 B1
**** See image for Certificate of Correction ****

TITLE: Method for sequestration of skin irritants with substrate compositions

DATE-ISSUED: April 22, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Minerath, III; Bernard Joseph	Oshkosh	WI		
Otts; David Roland	Appleton	WI		
Huard; Linda Susan	Appleton	WI		
Tyrrell; David John	Appleton	WI		
DiLuccio; Robert Cosmo	Alpharetta	GA		
Akin; Frank Jerrel	Marietta	GA		
Buhrow; Chantel Spring	Weyauwega	WI		
Everhart; Dennis Stein	Alpharetta	GA		
Nelson; Brenda Marie	Appleton	WI		
Shanklin; Gary Lee	Appleton	WI		

US-CL-CURRENT: 424/402; 424/400, 424/401, 424/443, 424/78.08

ABSTRACT:

The present invention relates to a method of sequestering skin irritants with a skin irritant sequestering composition comprising a substrate, a hydrophilic skin irritant sequestering agent and a hydrophobic skin irritant sequestering agent. In one embodiment the sequestering agents are comprised of modified and non-modified clays. The present invention further also provides a method of sequestering skin irritants comprising administering to the stratum corneum of an individual's skin a skin irritant sequestering composition comprising a substrate, a skin irritant sequestering amount of a combination of hydrophilic and hydrophobic skin irritant sequestering agents. In one embodiment the skin irritants are bound to sequestering agents present on a substrate. In another embodiment the skin irritants are bound to sequestering agents present on the skin.

57 Claims, 22 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 13

☐ 8. Document ID: US 6528298 B1

L2: Entry 8 of 30 File: USPT Mar 4, 2003

US-PAT-NO: 6528298
DOCUMENT-IDENTIFIER: US 6528298 B1

TITLE: .alpha.-amylase mutants

DATE-ISSUED: March 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Svendsen; Allan	Birkerod			DK
Borchert; Torben Vedel	Copenhagen			DK
Bisgard-Frantzen; Henrik	Bagsvaerd			DK
Outtrup; Helle	Ballerup			DK
Nielsen; Bjarne Ronfeldt	Virum			DK
Nielsen; Vibeke Skovgaard	Bagsv.oe butted.rd			DK
Hedegaard; Lisbeth	Skodsborg			DK

US-CL-CURRENT: 435/202; 435/183, 435/200, 435/201, 435/252.3, 435/320.1, 435/69.1, 536/23.2, 536/23.7

ABSTRACT:

The invention relates to a novel Termamyl-like .alpha.-amylase, and Termamyl-like .alpha.-amylases comprising mutations in two, three, four, five or six regions/positions. The variants have increased thermostability at acidic pH and/or at low Ca.sup.2+ concentrations (relative to the parent). The invention also relates to a DNA construct comprising a DNA sequence encoding an .alpha.-amylase variant of the invention, a recombinant expression vector which carries a DNA construct of the invention, a cell which is transformed with a DNA construct of the invention, the use of an .alpha.-amylase variant of the invention for washing and/or dishwashing, textile desizing, starch liquefaction, a detergent additive comprising an .alpha.-amylase variant of the invention, a manual or automatic dishwashing detergent composition comprising an .alpha.-amylase variant of the invention, a method for generating a variant of a parent Termamyl-like .alpha.-amylase, which variant exhibits increased thermostability at acidic pH and/or at low Ca.sup.2+ concentrations (relative to the parent).

12 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

☐ 9. Document ID: US 6524827 B2

L2: Entry 9 of 30 File: USPT Feb 25, 2003

US-PAT-NO: 6524827
DOCUMENT-IDENTIFIER: US 6524827 B2

TITLE: 2,6-.beta.-D-fructan hydrolase enzyme and processes for using the enzyme

DATE-ISSUED: February 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moller; Soren	Holte			DK
Johansen; Charlotte	Holte			DK
Schafer; Thomas	Farum			DK
Ostergaard; Peter Rahbek	Virum			DK
Hoeck; Lisbeth Hedegaard	Skodsborg			DK

US-CL-CURRENT: 435/74; 435/183, 435/252.3, 435/252.33, 435/320.1, 536/23.2

ABSTRACT:

The present invention relates to isolated polypeptides having polypeptide having 2,6-.beta.-D-fructan hydrolase activity and isolated nucleic acid sequences encoding the polypeptides. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences as well as methods for producing and using the polypeptides.

16 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 8

☐ 10. Document ID: US 6521434 B2

L2: Entry 10 of 30 File: USPT Feb 18, 2003

US-PAT-NO: 6521434
DOCUMENT-IDENTIFIER: US 6521434 B2

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

DATE-ISSUED: February 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Danielsen; Steffen	Copenhagen			DK
Schneider; Palle	Ballerup			DK

US-CL-CURRENT: 435/192; 435/252.3, 435/320.1, 435/911, 530/350, 536/23.2

ABSTRACT:

The present invention relates to isolated nucleic acid sequences encoding polypeptides having haloperoxidase activity. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences.

17 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw D

☐ 11. Document ID: US 6521242 B1

L2: Entry 11 of 30 File: USPT Feb 18, 2003

US-PAT-NO: 6521242
DOCUMENT-IDENTIFIER: US 6521242 B1

TITLE: Method for sequestration of nasal secretion skin irritants with facial tissue

DATE-ISSUED: February 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Minerath, III; Bernard Joseph	Oshkosh	WI		
Nelson; Brenda Marie	Appleton	WI		
Otts; David Roland	Appleton	WI		
Huard; Linda Susan	Appleton	WI		
Tyrrell; David John	Appleton	WI		
Shanklin; Gary Lee	Appleton	WI		

US-CL-CURRENT: 424/402; 424/400, 424/401, 424/78.08

ABSTRACT:

The present invention provides a method of sequestering nasal secretion skin irritants comprising administering to the stratum corneum of an individual's skin a facial tissue comprising a tissue substrate, a nasal secretion skin irritant sequestering amount of a combination of hydrophilic and hydrophobic nasal secretion skin irritant sequestering agents. In one embodiment the sequestering agents are comprised of modified and non-modified clays. In one embodiment the skin irritants are bound to sequestering agents present on a substrate. In another embodiment the skin irritants are bound to sequestering agents present on the skin.

23 Claims, 18 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw D

☐ 12. Document ID: US 6521241 B1

L2: Entry 12 of 30 File: USPT Feb 18, 2003

US-PAT-NO: 6521241
DOCUMENT-IDENTIFIER: US 6521241 B1

TITLE: Substrate composition for sequestration of skin irritants

DATE-ISSUED: February 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Minerath, III; Bernard Joseph	Oshkosh	WI		
Otts; David Roland	Appleton	WI		
Huard; Linda Susan	Appleton	WI		
Tyrrell; David John	Appleton	WI		
DiLuccio; Robert Cosmo	Alpharetta	GA		
Akin; Frank Jerrel	Marietta	GA		
Buhrow; Chantel Spring	Weyauwega	WI		
Everhart; Dennis Stein	Alpharetta	GA		
Nelson; Brenda Marie	Appleton	WI		
Shanklin; Gary Lee	Appleton	WI		

US-CL-CURRENT: 424/402; 424/400, 424/401, 424/443, 424/78.08

ABSTRACT:

The present invention relates to a skin irritant sequestering composition comprising a tissue substrate, a hydrophilic skin irritant sequestering agent and a hydrophobic skin irritant sequestering agent. In one embodiment the sequestering agents are comprised of modified and non-modified clays. In one embodiment, the skin irritants are bound to sequestering agents present on a substrate. In another embodiment the skin irritants are bound to sequestering agents present on the skin.

49 Claims, 22 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 13

☐ 13. Document ID: US 6521240 B1

L2: Entry 13 of 30 File: USPT Feb 18, 2003

US-PAT-NO: 6521240
DOCUMENT-IDENTIFIER: US 6521240 B1

TITLE: Facial tissue composition for sequestration of nasal secretion skin irritants

DATE-ISSUED: February 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Minerath, III; Bernard Joseph	Oshkosh	WI		
Nelson; Brenda Marie	Appleton	WI		
Otts; David Roland	Appleton	WI		
Huard; Linda Susan	Appleton	WI		
Tyrrell; David John	Appleton	WI		
Shanklin; Gary Lee	Appleton	WI		

US-CL-CURRENT: 424/402; 424/400, 424/401, 424/443, 424/78.08

ABSTRACT:

Facial tissue is provided comprising a tissue substrate, a hydrophilic nasal secretion skin irritant sequestering agent and a hydrophobic nasal secretion skin irritant sequestering agent. In one embodiment the sequestering agents are comprised of modified and non-modified clays. In one embodiment the skin irritants are bound to sequestering agents present on a substrate. In another embodiment the skin irritants are bound to sequestering agents present on the skin.

25 Claims, 18 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

☐ 14. Document ID: US 6511835 B1

L2: Entry 14 of 30 File: USPT Jan 28, 2003

US-PAT-NO: 6511835
DOCUMENT-IDENTIFIER: US 6511835 B1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

DATE-ISSUED: January 28, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Danielsen; Steffen	Copenhagen			DK
Schneider; Palle	Lynge			DK

US-CL-CURRENT: 435/192; 435/252.3, 435/320.1, 435/911, 530/350, 536/23.2

ABSTRACT:

The present invention relates to isolated nucleic acid sequences encoding polypeptides having haloperoxidase activity. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences.

17 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw. D

☐ 15. Document ID: US 6509181 B1

L2: Entry 15 of 30 File: USPT Jan 21, 2003

US-PAT-NO: 6509181
DOCUMENT-IDENTIFIER: US 6509181 B1

TITLE: Polypeptides having haloperoxide activity

DATE-ISSUED: January 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Danielsen; Steffen	Copenhagen			DK
Schneider; Palle	Lynge			DK

US-CL-CURRENT: 435/192; 435/252.3, 435/320.1, 435/911, 530/350, 536/23.2

ABSTRACT:

The present invention relates to isolated polypeptides having haloperoxidase activity. The invention also relates to methods for producing and using the polypeptides.

11 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw. D

☐ 16. Document ID: US 6506586 B2

L2: Entry 16 of 30 File: USPT Jan 14, 2003

US-PAT-NO: 6506586
DOCUMENT-IDENTIFIER: US 6506586 B2

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

DATE-ISSUED: January 14, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schneider; Palle	Lynge			DK
Danielsen; Steffen	Copenhagen			DK

US-CL-CURRENT: 435/192; 435/252.3, 435/320.1, 435/911, 530/350, 536/23.2

ABSTRACT:

The present invention relates to isolated nucleic acid sequences encoding polypeptides having haloperoxidase activity. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences.

17 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. D

☐ 17. Document ID: US 6506585 B2

L2: Entry 17 of 30 File: USPT Jan 14, 2003

US-PAT-NO: 6506585
DOCUMENT-IDENTIFIER: US 6506585 B2

TITLE: Polypeptides having haloperoxidase activity

DATE-ISSUED: January 14, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Danielsen; Steffen	Copenhagen			DK
Schneider; Palle	Ballerup			DK

US-CL-CURRENT: 435/192; 435/252.3, 435/320.1, 435/911, 530/350, 536/23.2

ABSTRACT:

30 The present invention relates to isolated polypeptides having haloperoxidase activity. The invention also relates to methods for producing and using the polypeptides

11 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. D

☐ 18. Document ID: US 6503508 B2

L2: Entry 18 of 30 File: USPT Jan 7, 2003

US-PAT-NO: 6503508
DOCUMENT-IDENTIFIER: US 6503508 B2

TITLE: Polypeptides having haloperoxidase activity

DATE-ISSUED: January 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schneider; Palle	Lynge			DK
Danielsen; Steffen	Copenhagen			DK

US-CL-CURRENT: 424/94.4; 422/28, 435/168, 435/192, 435/25, 435/252.3, 435/320.1, 435/69.1, 510/226, 530/350, 536/23.2

ABSTRACT:

The present invention relates to isolated polypeptides having haloperoxidase activity. The invention also relates to methods for producing and using the polypeptides.

12 Claims, 0 Drawing figures
Exemplary Claim Number: 1

☐ 19. Document ID: US 6495357 B1

L2: Entry 19 of 30 File: USPT Dec 17, 2002

US-PAT-NO: 6495357
DOCUMENT-IDENTIFIER: US 6495357 B1

TITLE: Lipolytic enzymes

DATE-ISSUED: December 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fuglsang; Claus Crone	Nivaa			DK
Okkels; Jens Sigurd	Frederiksberg			DK
Petersen; Dorte Aaby	Birkerod			DK
Patkar; Shamkant Anant	Lyngby			DK
Thellersen; Marianne	Frederiksberg			DK
Svendsen; Allan	Birkeroed			DK
Borch; Kim	Copenhagen			DK
Royer; John C.	Davis	CA		
Kretzschmar; Titus	Vaerloese			DK
Halkier; Torben	Birkeroed			DK
Vind; Jesper	Lyngby			DK
Jorgensen; Steen Troels	Alleroed			DK

US-CL-CURRENT: 435/198; 435/195, 435/196, 435/197

ABSTRACT:

The present invention relates to a modified enzyme with lipolytic activity, a lipolytic enzime capable of removing a substantial amount of fatty matter a one cycle wash, a DNA sequence encoding said enzymes, a vector comprising said DNA sequence, a host cell harbouring said DNA sequence or said vector, and a process for producing said enzymes with lipolytic activity.

63 Claims, 22 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 22

☐ 20. Document ID: US 6410292 B1

L2: Entry 20 of 30 File: USPT Jun 25, 2002

US-PAT-NO: 6410292
DOCUMENT-IDENTIFIER: US 6410292 B1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

DATE-ISSUED: June 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Danielsen; Steffen	Copenhagen			DK
Schneider; Palle	Ballerup			DK

US-CL-CURRENT: 435/192; 435/252.3, 435/320.1, 510/226, 530/300, 530/350, 536/23.2

ABSTRACT:

The present invention relates to isolated nucleic acid sequences encoding polypeptides having haloperoxidase activity. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences.

10 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Terms	Documents
(lipase or phospholipase) same chemically modified and hydrophobic	30

Display Format: - Change Format

Previous Page Next Page Go to Doc#

Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 21 through 30 of 30 returned.

☐ 21. Document ID: US 6410291 B1

Using default format because multiple data bases are involved.

L2: Entry 21 of 30 File: USPT Jun 25, 2002

US-PAT-NO: 6410291
DOCUMENT-IDENTIFIER: US 6410291 B1

TITLE: Polypeptides having haloperoxidase activity

DATE-ISSUED: June 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Danielsen; Steffen	Copenhagen			DK
Schneider; Palle	Ballerup			DK

US-CL-CURRENT: 435/192; 435/252.3, 435/320.1, 510/226, 530/300, 530/350, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw. D

☐ 22. Document ID: US 6379942 B1

L2: Entry 22 of 30 File: USPT Apr 30, 2002

US-PAT-NO: 6379942
DOCUMENT-IDENTIFIER: US 6379942 B1

TITLE: Chemically modified enzymes with multiple charged variants

DATE-ISSUED: April 30, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Davis; Benjamin G.	Durham			GB
Jones; John Bryan	Lakefield			CA
Bott; Richard R.	Burlingame	CA		

US-CL-CURRENT: 435/221; 510/392

ABSTRACT:

This invention provides modified enzymes comprising one or more amino acid residues replaced by cysteine residues, where the cysteine residues are modified by replacing the thiol hydrogen in the cysteine residues with a substituent group providing a thiol side chain comprising a multiply charged moiety. The enzymes show improved interaction and/or specificity and/or activity with charged substrates.

21 Claims, 17 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 11

☐ 23. Document ID: US 6361989 B1

L2: Entry 23 of 30 File: USPT Mar 26, 2002

US-PAT-NO: 6361989
DOCUMENT-IDENTIFIER: US 6361989 B1

TITLE: .alpha.-amylase and .alpha.-amylase variants

DATE-ISSUED: March 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Svendsen; Allan	Birkerod			DK
Borchert; Torben Vedel	Copenhagen			DK
Bisgard-Frantzen; Henrik	Bagsvaerd			DK
Outtrup; Helle	Ballerup			DK
Nielsen; Bjarne Ronfeldt	Virum			DK
Nielsen; Vibeke Skovgaard	Bagsv.ae butted.rd			DK
Hedegaard; Lisbeth	Skodsborg			DK

US-CL-CURRENT: 435/202; 435/183, 435/200

ABSTRACT:

The invention relates to a novel Termamyl-like .alpha.-amylase, and Termamyl-like .alpha.-amylases comprising mutations in two, three, four, five or six regions/positions. The variants have increased thermostability at acidic pH and/or at low Ca.sup.2+ concentrations (relative to the parent). The invention also relates to a DNA construct comprising a DNA sequence encoding an .alpha.-amylase variant of the invention, a recombinant expression vector which carries a DNA construct of the invention, a cell which is transformed with a DNA construct of the invention, the use of an .alpha.-amylase variant of the invention for washing and/or dishwashing, textile desizing, starch liquefaction, a detergent additive comprising an .alpha.-amylase variant of the invention, a manual or automatic dishwashing detergent composition comprising an .alpha.-amylase variant of the invention, a method for generating a variant of a parent Termamyl-like .alpha.-amylase, which variant exhibits increased thermostability at acidic pH and/or at low Ca.sup.2+ concentrations (relative to the parent).

5 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. De

☐ 24. Document ID: US 6323007 B1

L2: Entry 24 of 30 File: USPT Nov 27, 2001

US-PAT-NO: 6323007
DOCUMENT-IDENTIFIER: US 6323007 B1

TITLE: 2,6-.beta.-D-fructan hydrolase enzyme and processes for using the enzyme

DATE-ISSUED: November 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moller; Soren	Holte			DK
Johansen; Charlotte	Holte			DK
Schafer; Thomas	Farum			DK
Ostergaard; Peter Rahbek	Virum			DK
Hoeck; Lisbeth Hedegaard	Skodsborg			DK

US-CL-CURRENT: 435/74; 435/200, 435/252.33, 435/262, 435/274, 435/320.1

ABSTRACT:

The present invention relates to isolated polypeptides having polypeptide having 2,6-.beta.-D-fructan hydrolase activity and isolated nucleic acid sequences encoding the polypeptides. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences as well as methods for producing and using the polypeptides.

10 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 8

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. De

☐ 25. Document ID: US 6309871 B1

L2: Entry 25 of 30 File: USPT Oct 30, 2001

US-PAT-NO: 6309871
DOCUMENT-IDENTIFIER: US 6309871 B1

TITLE: Polypeptides having alkaline .alpha.-amylase activity

DATE-ISSUED: October 30, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Outtrup; Helle	Vaerlose			DK
Borchert; Torben Vedel	Copenhagen			DK
Nielsen; Bjarne Ronfeldt	Virum			DK
Nielsen; Vibeke Skovgaard	Bagsv.ae butted.rd			DK
Hoeck; Lisbeth Hedegaard	Skodsborg			DK

US-CL-CURRENT: 435/202

ABSTRACT:

The present invention relates to isolated polypeptides having .alpha.-amylase activity and isolated nucleic acid sequences encoding the polypeptides, which may be derived from Bacillus. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences as well as methods for producing and using the polypeptides.

6 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

☐ 26. Document ID: US 5952490 A

L2: Entry 26 of 30 File: USPT Sep 14, 1999

US-PAT-NO: 5952490
DOCUMENT-IDENTIFIER: US 5952490 A
**** See image for Certificate of Correction ****

TITLE: Oligonucleotides having a conserved G4 core sequence

DATE-ISSUED: September 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hanecak; Ronnie C.	San Clemente	CA		
Anderson; Kevin P.	Carlsbad	CA		
Bennett; C. Frank	Carlsbad	CA		
Chiang; Ming-Yi	Laguna Hills	CA		
Brown-Driver; Vickie L.	San Diego	CA		
Ecker; David J.	Leucadia	CA		
Vickers; Timothy A.	Oceanside	CA		
Wyatt; Jacqueline R.	Carlsbad	CA		
Imbach; Jean Louis	Montpellier			FR

US-CL-CURRENT: 536/24.5; 536/25.5

ABSTRACT:

Modified oligonucleotides having a conserved G.sub.4 sequence and a sufficient number of flanking nucleotides to significantly inhibit the activity of a virus such as HSV-1 or phospholipase A.sub.2 or to modulate the telomere length of a chromosome are provided. G.sub.4 quartet oligonucleotide structures are also provided. Methods of prophylaxis, diagnosis and therapeutics for viral-associated diseases and diseases associated with elevated levels of phospholipase A.sub.2 are also provided. Methods of modulating telomere length of a chromosome are also provided; modulation of telomere length is believed to plat a role in the aging process of a cell and in control of malignant cell growth.

27 Claims, 20 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 16

☐ 27. Document ID: US 5273898 A

L2: Entry 27 of 30 File: USPT Dec 28, 1993

US-PAT-NO: 5273898
DOCUMENT-IDENTIFIER: US 5273898 A

TITLE: Thermally stable and positionally non-specific lipase isolated from Candida

DATE-ISSUED: December 28, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ishii; Michiyo	Sapporo			JP

US-CL-CURRENT: 435/198; 435/134, 435/921

ABSTRACT:

Thermally stable, positionally non-specific lipases native to Candida species of C. antartica, C. tsukubaensis, C. auriculariae, C. humicola, and C. foliarum, are isolated. The lipase of C. antarctica, is preferred. Two lipase activities are elaborated by C. antarctica. One lipase fraction being 43 kD in molecular weight, and of an isoelectric point of about 8.0 and has excellent thermostability. The other fraction being 33 kD in molecular weight and of an isoelectric point of about 6.0 and has high retention of residual activity at pH 10.

21 Claims, 10 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

☐ 28. Document ID: US 5164196 A

L2: Entry 28 of 30 File: USPT Nov 17, 1992

US-PAT-NO: 5164196
DOCUMENT-IDENTIFIER: US 5164196 A

TITLE: Crotoxin complex as cytotoxic agent

DATE-ISSUED: November 17, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Plata; Guillermo J. H.	Maracaibo-Zulia			VE
Costa; Luis A.	Buenos Aires			AR
Coni; Carlos M.	La Rioja			AR
Vidal; Juan C.	Cambridge	MA		

US-CL-CURRENT: 424/542; 514/2, 514/21, 530/856

ABSTRACT:

The present invention provides a stable composition of matter based on the cytotoxic activity of a basic phospholipase A.sub.2 of molecular weight 14,500 and isoelectric point 9.6-9.7 (crotoxin B) isolated from the venom of Crotalus durissus terrificus which in complex with a specific, non-enzymatic, peptide of molecular weight 9,500 and isoelectric point 3.5-3.7 (crotoxin A) displays a preferential cytotoxic activity against various types of tumor cells. When administered parenterally in an acceptable vehicle and in pharmacologically efficient amounts to animals and humans the complex is useful in the treatment of malignant tumors in advanced stages. The method for purification of the active components, the preparation in a pharmacologically acceptable form, and the method of therapeutic use of the present composition of matter are also disclosed.

7 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. De

☐ 29. Document ID: US 4200551 A

L2: Entry 29 of 30 File: USPT Apr 29, 1980

US-PAT-NO: 4200551
DOCUMENT-IDENTIFIER: US 4200551 A
**** See image for Certificate of Correction ****

TITLE: Cold-water-dispersible lecithin concentrates

DATE-ISSUED: April 29, 1980

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Orthoefer; Frank T.	Decatur	IL		

US-CL-CURRENT: 516/74; 516/918, 516/DIG.6, 554/80

ABSTRACT:

Cold-water-dispersible lecithin concentrates are prepared by a homogeneous blend of lecithin and certain nonionic emulsifiers (e.g., polyoxyethylene mono- and diglycerides and polyoxyethylene derivatives of partial fatty acid esters and hexitol anhydrides). The concentrates readily disperse into cold water (e.g., under 5.degree. C.) over a broad concentration range (e.g., 0.05-30%) to form low-viscosity and stable lecithin in water emulsions. Concentrates containing polyoxyethylene mono- and/or diglycerides are particularly effective emulsifiers for the lecithin concentrate.

18 Claims, 0 Drawing figures
Exemplary Claim Number: 1

☐ 30. Document ID: ES 2145702 A1, ES 2145702 B1

L2: Entry 30 of 30 File: DWPI Jul 1, 2000

DERWENT-ACC-NO: 2000-433423
DERWENT-WEEK: 200117

TITLE: Enzymatic preparation of (R)-ethyl 2-hydroxy-4-phenylbutanoate (HBPE), by selective hydrolysis of racemic HBPE using a fixed lipase biocatalyst

PRIORITY-DATA: 1998ES-0000708 (April 3, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 2145702 A1	July 1, 2000		001	C12P007/62
ES 2145702 B1	February 1, 2001		000	C12P007/62

INT-CL (IPC): C12 N 11/10; C12 P 7/62

ABSTRACTED-PUB-NO: ES 2145702A
BASIC-ABSTRACT:

NOVELTY - (R, S)-HPBE is enantioselectively hydrolysed to give (R)-HBPE and (S)-2-hydroxy-4-phenylbutanoic acid, using a fixed lipase biocatalyst obtained by adsorption of enzymes with a very low ionic strength onto chemically-modified hydrophilic supports with a dense covering of hydrophobic groups. DETAILED DESCRIPTION - An enzymatic method for the preparation of enantiomerically pure (R)-ethyl 2-hydroxy-4-phenylbutanoat e (HBPE) using fixed lipase biocatalysts, comprises the enantio-selective hydrolysis of a racemic mixture of (R) and (S)-HPBE of formula (I), to give (R)-HBPE (II) and (S)-2-hydroxy-4-phenylbutanoic acid (II):

Preparation is carried out in an aqueous medium under mild pH and temperature conditions, using fixed lipase biocatalysts obtained by adsorption of enzymes with a very low ionic strength onto chemically-modified hydrophilic supports with a dense covering of hydrophobic groups.

USE - (II) is used as an intermediate for the synthesis of inhibitors for angiotensine-converting enzymes.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Terms	Documents
(lipase or phospholipase) same chemically modified and hydrophobic	30

Display Format: - Change Format

Previous Page Next Page Go to Doc#

Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 19 of 19 returned.

☐ 1. Document ID: US 20040005604 A1

Using default format because multiple data bases are involved.

L4: Entry 1 of 19 File: PGPB Jan 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040005604
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040005604 A1

TITLE: Phospholipases, nucleic acids encoding them and methods for making and using them

PUBLICATION-DATE: January 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Gramatikova, Svetlana	San Diego	CA	US	
Hazlewood, Geoff	San Diego	CA	US	
Lam, David E.	San Elijo Hills	CA	US	
Barton, Nelson R.	San Diego	CA	US	

US-CL-CURRENT: 435/6; 435/198, 435/320.1, 435/325, 435/69.1, 536/23.2, 702/20

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 2. Document ID: US 20030211958 A1

L4: Entry 2 of 19 File: PGPB Nov 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030211958
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030211958 A1

TITLE: Alpha-amylase mutants

PUBLICATION-DATE: November 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Svendsen, Allan	Birkerod		DK	
Borchert, Torben Vedel	Copenhagen		DK	

Bisgard-Frantzen, Henrik	Bagsvaerd	DK
Outtrup, Helle	Ballerup	DK
Nielsen, Bjarne Ronfeldt	Virum	DK
Nielsen, Vibeke Skovgaard	Bagsvaerd	DK
Hedegaard, Lisbeth	Skodsborg	DK

US-CL-CURRENT: 510/226; 435/202, 435/320.1, 435/325, 435/69.1, 510/320, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 3. Document ID: US 20030199077 A1

L4: Entry 3 of 19 File: PGPB Oct 23, 2003

PGPUB-DOCUMENT-NUMBER: 20030199077
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030199077 A1

TITLE: Subtilase variants having an improved wash performance on egg stains

PUBLICATION-DATE: October 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Fano, Tina Sejersgard	Kobenhavn		DK	
Mikkelsen, Frank	Valby		DK	

US-CL-CURRENT: 435/263; 435/264, 510/226, 510/320

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 4. Document ID: US 20030199069 A1

L4: Entry 4 of 19 File: PGPB Oct 23, 2003

PGPUB-DOCUMENT-NUMBER: 20030199069
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030199069 A1

TITLE: Novel lipolytic enzymes

PUBLICATION-DATE: October 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Fuglsang, Claus Crone	Nivaa	CA	DK	
Okkels, Jens Sigurd	Frederiksberg C.		DK	
Petersen, Dorte Aaby	Valby		DK	
Patkar, Shamkant Anant	Lyngby		DK	

Thellersen, Marianne	Frederiksberg C.	DK
Svendsen, Allan	Birkeroed	DK
Borch, Kim	Kobenhavn K	DK
Royer, John C.	Davis	US
Kretzschmar, Titus	Vaerlose	DK
Halkier, Torben	Birkeroed	DK
Vind, Jesper	Lyngby	DK
Jorgensen, Steen Troels	Alleroed	DK

US-CL-CURRENT: 435/198; 435/320.1, 435/325, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 5. Document ID: US 20030191038 A1

L4: Entry 5 of 19 File: PGPB Oct 9, 2003

PGPUB-DOCUMENT-NUMBER: 20030191038
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030191038 A1

TITLE: Subtilase enzymes

PUBLICATION-DATE: October 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hansen, Peter Kamp	Lejre		DK	
Bauditz, Peter	Kobenhaven O		DK	
Mikkelsen, Frank	Valby		DK	
Andersen, Kim Vilbour	Copenhagen O		DK	
Andersen, Carsten	Vaerlose		DK	
Norregaard-Madsen, Mads	Odense M		DK	

US-CL-CURRENT: 510/226; 435/222, 435/252.3, 435/320.1, 435/69.1, 510/320, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 6. Document ID: US 20030171235 A1

L4: Entry 6 of 19 File: PGPB Sep 11, 2003

PGPUB-DOCUMENT-NUMBER: 20030171235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030171235 A1

TITLE: Subtilase enzymes

PUBLICATION-DATE: September 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hansen, Peter Kamp	Lejre		DK	
Bauditz, Peter	Kobenhaven O		DK	
Mikkelsen, Frank	Valby		DK	
Andersen, Kim Vilbour	Copenhagen O		DK	
Andersen, Carsten	Vaerlose		DK	
Norregaard-Madsen, Mads	Odense M		DK	

US-CL-CURRENT: 510/226; 435/222, 435/252.3, 435/320.1, 435/69.1, 510/320, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

---

☐ 7. Document ID: US 20030170696 A1

L4: Entry 7 of 19 File: PGPB Sep 11, 2003

PGPUB-DOCUMENT-NUMBER: 20030170696
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030170696 A1

TITLE: Cgtase and dna sequence encoding same

PUBLICATION-DATE: September 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Jorgensen, Per Lina	Kobenhavn K		DK	
Fuglsang, Claus Crone	Vekso		DK	

US-CL-CURRENT: 435/6; 426/20, 435/193, 435/320.1, 435/325, 435/69.1, 435/97, 510/320, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

---

☐ 8. Document ID: US 20020183506 A1

L4: Entry 8 of 19 File: PGPB Dec 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020183506
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020183506 A1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

PUBLICATION-DATE: December 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Danielsen, Steffen	Copenhagen		DK	

Schneider, Palle Ballerup DK

US-CL-CURRENT: 536/23.2; 435/189, 435/320.1, 435/325, 435/69.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

---

☐ 9. Document ID: US 20020155575 A1

L4: Entry 9 of 19 File: PGPB Oct 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020155575
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020155575 A1

TITLE: Subtilase variants

PUBLICATION-DATE: October 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Norregaard-Madsen, Mads	Birkerod		DK	
Larsen, Line Bloch	Haspegardsvej		DK	
Hansen, Peter Kamp	Lejre		DK	

US-CL-CURRENT: 435/222; 435/252.3, 435/320.1, 435/69.1, 510/306, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

---

☐ 10. Document ID: US 20020127695 A1

L4: Entry 10 of 19 File: PGPB Sep 12, 2002

PGPUB-DOCUMENT-NUMBER: 20020127695
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020127695 A1

TITLE: Chemically modified enzymes with multiple charged variants

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Davis, Benjamin G.	Durham	CA	GB	
Jones, John Bryan	Lakefield		CA	
Bott, Richard R.	Burlingame		US	

US-CL-CURRENT: 435/226; 435/219, 435/320.1, 435/325, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 11. Document ID: US 20020106511 A1

L4: Entry 11 of 19 File: PGPB Aug 8, 2002

PGPUB-DOCUMENT-NUMBER: 20020106511
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020106511 A1

TITLE: Encapsulation of compounds in vesicles

PUBLICATION-DATE: August 8, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Callisen, Thomas Honger	Frederiksberg C		DK	

US-CL-CURRENT: 428/402.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 12. Document ID: US 20020082182 A1

L4: Entry 12 of 19 File: PGPB Jun 27, 2002

PGPUB-DOCUMENT-NUMBER: 20020082182
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020082182 A1

TITLE: Laundry detergents comprising modified and enhanced alkylbenzene sulfonates

PUBLICATION-DATE: June 27, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kott, Kevin Lee	Loveland	OH	US	
Scheibel, Jeffrey John	Loveland	OH	US	
Severson, Roland George	Cincinnati	OH	US	
Cripe, Thomas Anthony	Loveland	OH	US	
Roger Burckett-St. Laurent, James Charles Theophile	Lasne	OH	GB	
Federle, Thomas Walter	Cincinnati		US	

US-CL-CURRENT: 510/357; 510/424, 510/426, 510/428, 510/429

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 13. Document ID: US 20020076790 A1

L4: Entry 13 of 19 File: PGPB Jun 20, 2002

PGPUB-DOCUMENT-NUMBER: 20020076790
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020076790 A1

TITLE: 2,6-beta-D-fructan hydrolase enzyme and processes for using the enzyme

PUBLICATION-DATE: June 20, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Moller, Soren	Holte		DK	
Johansen, Charlotte	Holte		DK	
Schafer, Thomas	Farum		DK	
Ostergaard, Peter Rahbek	Virum		DK	
Hoeck, Lisbeth Hedegaard	Skodsborg		DK	

US-CL-CURRENT: 435/200; 435/101, 435/320.1, 435/325, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

---

☐ 14. Document ID: US 20020072086 A1

L4: Entry 14 of 19 File: PGPB Jun 13, 2002

PGPUB-DOCUMENT-NUMBER: 20020072086
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020072086 A1

TITLE: POLYPEPTIDES HAVING HALOPEROXIDASE ACTIVITY

PUBLICATION-DATE: June 13, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Danielsen, Steffen	Copenhagen		DK	
Schneider, Palle	Ballerup		DK	

US-CL-CURRENT: 435/41; 435/189, 435/69.1, 510/320

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

---

☐ 15. Document ID: US 20020058320 A1

L4: Entry 15 of 19 File: PGPB May 16, 2002

PGPUB-DOCUMENT-NUMBER: 20020058320
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020058320 A1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

PUBLICATION-DATE: May 16, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Danielsen, Steffen	Copenhagen		DK	
Schneider, Palle	Ballerup		DK	

US-CL-CURRENT: 435/189; 435/320.1, 435/325, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 16. Document ID: US 20020009435 A1

L4: Entry 16 of 19 File: PGPB Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020009435
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020009435 A1

TITLE: Polypeptides having haloperoxidase activity

PUBLICATION-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Schneider, Palle	Lynge		DK	
Danielsen, Steffen	Copenhagen O		DK	

US-CL-CURRENT: 424/94.4; 435/189, 435/325, 435/69.1, 510/226, 510/300, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 17. Document ID: US 20020009434 A1

L4: Entry 17 of 19 File: PGPB Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020009434
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020009434 A1

TITLE: Polypeptides having haloperoxidase activity

PUBLICATION-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Danielsen, Steffen	Copenhagen		DK	
Schneider, Palle	Ballerup		DK	

US-CL-CURRENT: 424/94.4; 435/189, 510/226, 510/320

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 18. Document ID: US 20020007052 A1

L4: Entry 18 of 19 File: PGPB Jan 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020007052
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020007052 A1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

PUBLICATION-DATE: January 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Schneider, Palle	Lynge		DK	
Danielsen, Steffen	Copenhagen O		DK	

US-CL-CURRENT: 536/23.2; 435/189, 435/325, 435/69.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 19. Document ID: US 20020006652 A1

L4: Entry 19 of 19 File: PGPB Jan 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020006652
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020006652 A1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

PUBLICATION-DATE: January 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Danielsen, Steffen	Copenhagen O		DK	
Schneider, Palle	Ballerup		DK	

US-CL-CURRENT: 435/189; 435/325, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS